



Advancing Enterprise Growth and Agility

Intel® Server Platforms



LEADERSHIP

INNOVATION

RELIABILITY

SAVINGS

SCALABILITY

AGILITY

Forward-thinking IT
isn't only about cost-cutting—
it's about business building.



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Flexible, Reliable Infrastructure that Delivers Real Business Value

IT infrastructure plays a strategic role in business success. It can make or break your ability to keep pace with the ever-growing, ever-changing needs of your enterprise.

Your IT infrastructure must be agile, manageable, and efficient. It must help minimize data center costs, complexity and risk. And, of course, it must support business growth and improve productivity.

Innovative companies are using IT to achieve built-in competitive advantage that translates to real bottom-line benefits: faster development cycles, better products, improved operating results, and more satisfied customers.

And more than any other technology, servers are at the heart of your IT infrastructure. You depend on your server platform to distribute information, connect employees, transform data, and serve customers.

But are your servers helping you build and maintain the business productivity and flexibility you need to make competitive leaps and seize new opportunities?

With Intel® technology built in, the answer is yes.



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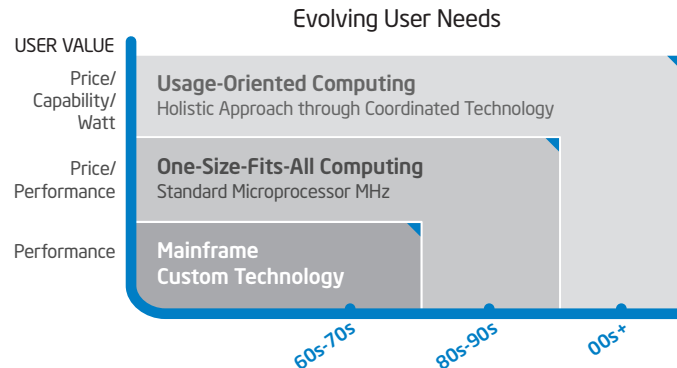


Evolving Needs Call for a New Approach

Traditionally, computing products have been designed based on the capabilities of the technology. Today, Intel is working to first foresee what customers want and need, then leading the industry in delivering those capabilities through complete “platforms.”

Developed in collaboration with the world’s largest and most robust community of hardware manufacturers and software providers, these platforms combine hardware, software, and services to provide innovative end-to-end solutions that meet even the most challenging customer requirements.

Intel’s highly reliable and flexible server platforms help companies reduce costs, increase performance, and grow with confidence. With Intel built in, your company’s assets are built upon an agile and cost-effective framework.



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Proven Platforms for Your Digital Enterprise

The world's most successful businesses run on Intel® architecture—8 out of every 10 servers shipped worldwide are based on Intel® processors. That's because Intel® servers deliver outstanding price/performance and innovative technologies and support a broad choice of vendors, operating systems, and applications.

With a current install base of more than 30 million, Intel® Xeon® processor-based servers are the hardware platform of choice for your general-purpose IT infrastructure, providing outstanding flexibility, proven dependability, and next-generation technologies.

The Itanium® 2-based server platform is Intel's highest-performing and most reliable platform, designed specifically for business-critical computing needs. With proven capability and mainframe-class reliability, Itanium 2-based server systems are the ideal choice for RISC replacement.

By standardizing on Intel® server platforms, you can optimize performance, availability, and efficiency of your IT infrastructure.

Proven Platforms Across the Enterprise

Intel® Xeon® Processor-based Platforms

GENERAL PURPOSE
Application Server, Workgroup,
e-Commerce, Portals, Firewall/Security

**High Availability
through Redundant
Scale-Out Systems**

Intel® Itanium® 2 Processor-based Platforms

BUSINESS CRITICAL
Database, BI, ERP, SCM, HPC

**High Availability
through Mainframe-Class
Scale-Up Systems**



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For optimal efficiency and productivity,
build your business on Intel server platforms
with advanced computing technology.



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New Technologies Increase Efficiency and Productivity

To succeed in today's competitive environment, you must respond faster, deliver new and innovative services and satisfy both internal and external customers, while keeping costs in check and maintaining manageability.

Your server infrastructure plays a critical role in your ability to meet the growing needs of your enterprise. To help you get ahead and stay ahead, Intel is advancing server technology in three key areas. Together they deliver highly manageable virtualized computing resources with optimal efficiency and productivity—available anytime, anywhere.

Parallelism: The future of computing—now.

Multi-core processing—parallelism—delivers more computing resources without increasing footprint and power demands for better performance per watt, larger throughput, and improved scalability.

Manageability: Simplify support of your enterprise.

Innovations like Intel® Active Management Technology help you fix problems faster, roll out new services more quickly, monitor the health and status of connected systems, and reboot systems remotely.

Virtualization: Get more out of your servers.

Virtualization—the capability to run multiple operating systems and applications in independent partitions—delivers the flexibility to do more with less, reallocate resources as needed, and improve CPU utilization.¹



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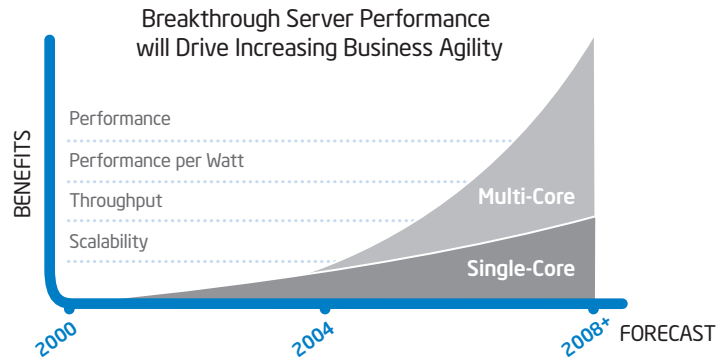


Make a Quantum Leap in Processing Capacity

Dual-core processors deliver a quantum leap in processing capacity, providing businesses with servers that can better handle today's complex, simultaneous transactions and escalating workloads without a comparable increase in power consumption.

With two execution units per processor, dual-core processor-based platforms help improve throughput and increase performance up to 50 percent¹ compared to prior-generation, single-core platforms tested.

Get the performance and headroom you need to grow your business cost-effectively with dual-core processor-based server platforms.



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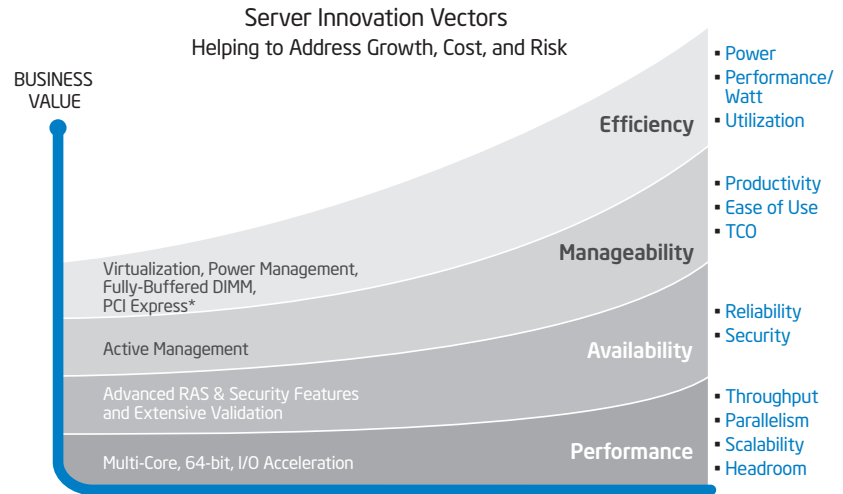
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Harness the Power

Move your business forward and stay competitive with Intel® technology built in.



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Intel server platforms meet the
ever-increasing demands on your
IT infrastructure with outstanding
reliability and performance.



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Reliability and Performance You Can Depend On

With each passing day, information flows between businesses, partners, and customers faster and faster while process automation continues to intensify, straining the performance of your underlying IT infrastructure.

You can count on Intel® standards-based server platforms to deliver outstanding reliability and performance in complex, real-world environments; to reallocate resources to meet varying workload demands; to heal themselves in response to a wide variety of errors; and to quickly scale up or scale out.

Intel® Platforms Span the Enterprise

PLATFORM	Intel® Xeon® Processor-based	Itanium® 2-based
SOLUTIONS	Best for General Purpose IT infrastructure workstation, front-end, and mid-tier solutions	Best for Business-Critical Mid-tier, and back-end servers, and technical computing
PERFORMANCE	Outstanding Price Performance Best for workgroup, Web server, workstation and 32/64-bit applications	Exceptional Performance Best for largest enterprise, database, enterprise resource planning (ERP), business intelligence (BI), technical computing workloads and supply chain management (SCM)
RELIABILITY	Highly Reliable and Secure	Mainframe-Class Reliability
SCALABILITY	Scale Out, Scale Up Supports 1 Terabyte (1 TB) of physical memory for existing 32/64-bit solutions	Scale Up, Scale Out Up to 1 Petabyte (1000 TB) of memory capacity for largest SMP

Power the seamless exchange of data across your enterprise.



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Fast, Dependable, Efficient

Intel® Xeon® Processor-based Server Platforms

With integrated reliability and security features, Intel® Xeon® processor-based servers help to ensure the availability of your data and applications at all times. By consistently delivering next-generation technologies built on industry-standard hardware and software, Intel Xeon processor-based servers consistently put new capabilities in your hands such as:

- Dual-core technology
- Intel® Virtualization technology
- Hyper-threading technology
- Demand-based switching
- Execute disable bit functionality

Case Study

Infoseek* Web Search Engine Intel® Xeon® Processors

"Processes where parallelization is relatively easy can be sped up by increasing the number of servers (scale out) but processes where parallelization is difficult like index generation are very dependent on individual CPU performance. This is why the Intel Xeon processors have contributed significantly to the high processing performance."

Kazuaki Hiraga, Technology Division
Development Group Assistant Manager
Infoseek

5x Increase in Processing Performance

Infoseek Co., Ltd., provides the comprehensive information search service "Infoseek." Infoseek's home page gets approximately 30 million hits per day, making it the second largest search engine in Japan. Infoseek's main search engine runs on conventional, expensive commercial UNIX* servers.

Dual-Server Solution

For its newly developed ASP search engine, Infoseek implemented a dual-server system based on Intel® Xeon® processors running open source Linux.* Infoseek chose Intel Xeon processor-based systems for their proven high performance at a low cost.

5x Faster, 90% Cost Reduction

Compared to its commercial UNIX servers, Intel Xeon processor-based servers deliver five times the speed and performance at approximately 10 percent of the cost. Processes that were taking up to 70 minutes are now completed in as little as 30 seconds.



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Premier Performance, Mainframe-Class Reliability

Itanium® 2-based Server Platforms

Itanium® 2-based servers are helping enterprises make the transition from complex, expensive proprietary platforms to a standards-based flexible architecture. Itanium 2-based server systems offer a far greater range of optimized solutions than proprietary platforms and can help you lower costs and improve performance. The Itanium 2-based server platform was built specifically for your most demanding, business-critical applications—databases, ERP, SCM, BI, HPC—and provides:

- Standards-based microarchitecture
- Support for 7 operating systems and over 5000 applications
- 9 MB of L3 cache, from 2 to 512 processors
- Uptimes as high as 99.999999%²
- Massive on-chip resources
- High-precision floating-point engines
- Extensive error detection/correction
- Large memory addressability

Case Study

Sompo Japan* Data Warehouse Intel® Itanium® 2 Processors

“A backup that previously took approximately 24 hours has now been reduced to around 8 hours despite a threefold increase in the volume of data. That’s approximately a nine fold speedup.”

Tomohiro Ueno
User Support Group
Sompo Japan

Significant Performance Boost

Sompo Japan Insurance, Inc., one of the nation's largest insurance companies, began to encounter capacity limitations on its expensive RISC-based data warehouse. Sompo Japan realized they needed a higher performing system to handle their data intensive analysis and simulation applications.

State-of-the-Art Solution

Sompo Japan replaced its aging RISC-based systems with a state-of-the-art Itanium 2-based clustered system. Sompo selected Itanium 2-based servers for their superior throughput, reliability, and cost-effectiveness.

5x Speed Increase, 50% Lower Cost

Sompo Japan's migration to Itanium 2-based servers resulted in a 5x speed improvement overall, backups running 9 times faster, data loading reduced from 3 days to 1, and 50 percent lower maintenance costs than RISC.



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Simplify your environment,
lower operating costs, and maximize
your return on IT investments
with Intel server solutions.



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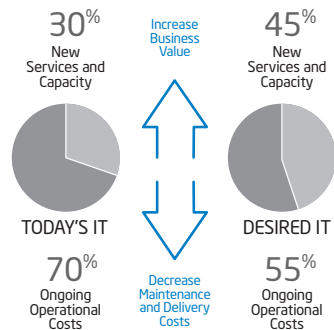
Reduce Costs with Intel Server Platforms

By eliminating non-value activities, streamlining qualifications, simplifying operations, and aligning IT resources to key business initiatives, you can shift the balance of IT expenditures from operations and maintenance to the delivery of new services that will help drive bottom-line success.

Take advantage of Intel's outstanding management capabilities, standards-based architecture, and innovative technology to minimize maintenance expenditures and costly downtime, while improving manageability and freeing resources for more strategic technology initiatives.

Standardizing and consolidating applications, operating systems, and platforms on Intel® standards-based architecture can help reduce data center complexity, lower operational costs, and minimize downtime.

Shifting Budgets for Better Value



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Case Study

Visa USA* IT Infrastructure Intel Xeon processors

“The new [Intel Xeon processor-based] system infrastructure has a tremendous amount of headroom to accommodate additional applications without adding hardware or software. As a result, we expect to see the return on this investment increase over the next year or two.”

Melyssa Barrett
Director of Issuer Risk
Visa USA

Simplifying Management and Reducing Costs

Visa is the world's leading payment brand and largest consumer payment system, enabling banks to provide their consumer and merchant customers with a wide variety of payment alternatives. Within the United States, nearly 14,000 financial institutions issue 429 million Visa cards, accounting for more than USD 1.1 trillion in annual transaction volume. With several key Web applications showing their age, availability had become an issue and support costs had risen for Visa USA. Visa needed new features and a stronger infrastructure.

Modular Computing Infrastructure

With guidance from Intel® Solution Services, Visa USA reduced its existing two-tier hardware infrastructure (comprising two back-end SQL databases with ten application servers on the front end) to a modular computing architecture consisting of four blade servers from Egenera* using Intel Xeon processors with Hyper-Threading Technology: three 2-way Intel Xeon processor-based blades and one Intel® Xeon® processor MP blade server.

Costs Reduced by \$1.4 Million

The use of Intel Xeon-based blade servers simplified management and increased availability and scalability of Visa's IT infrastructure. Visa's investment in this new Intel Xeon processor-based architecture paid off after only three months, and ongoing costs were reduced by USD 1.4 million over 36 months. Visa's internal operations costs for this set of applications have been reduced from USD 55 thousand per month to USD 24 thousand per month. And application support costs have been reduced by approximately USD 20 thousand per month.



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Case Study

Tata Motors*

Analysis and Visualization Applications
Intel Itanium 2 Processors
Intel Xeon Processors

"We found database performance of Intel® Itanium® 2 processor-based servers to be the best for our Teamcenter* application. It was 50 percent faster than comparably configured RISC-based servers at substantially lower cost.

We would wholeheartedly recommend Intel for high-performance computing applications that are mission-critical. Their open architecture and overwhelming case for price-performance made for a clinching argument in their favor."

Uma Maheshwaran
Chief Technology Officer
Tata Motors

Driving Down Costs

Tata Motors, India's largest commercial vehicle manufacturer, wanted to speed car design while reducing production costs. The RISC-based platform that delivered Tata's product life cycle tools was not integrated or available organization-wide, creating bottlenecks and impeding design. Tata Motors needed a more powerful, centralized system to run its heavyweight analysis, visualization, and collaboration applications.

Itanium 2-based Servers Replace RISC

Tata Motors migrated its UGS Teamcenter* product life cycle management application from RISC-based servers to Oracle 9* database running on Itanium 2-based SGI Altix* servers. All analysis applications were deployed on Itanium 2-based servers using 64 processors, and all engineering and math applications were consolidated on Intel Xeon processor-based servers. Tata Motors chose Itanium 2-based servers because of their greater price/performance and simpler management when compared with previous RISC-based systems.

Lower Overall TCO than RISC, 50% Faster

With its new Itanium* and Intel Xeon processor-based deployments, Tata Motors is able to realize substantial cost reductions due to lower total cost of ownership and optimal usage of resources. Benefits of their new Intel deployment include:

- 50 percent faster than RISC systems
- 5x increase in users
- Lower overall TCO
- Zero downtime to date



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Grow quickly, smoothly, and economically
with Intel® standards-based
server platforms.



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Quick Scalability for Unpredictable Growth

Every day brings new surprises in the form of new competitors, markets, technologies, and opportunities. To respond, your business needs to get new solutions to market quickly, handle a sudden surge in computing workload, eliminate data bottlenecks, and improve throughput and productivity.

Intel server platforms help you grow quickly, smoothly, and economically. Itanium 2-based server systems can scale from 2 up to 512 processors and up to 1 petabyte (1000 terabytes) of memory capacity, providing the flexibility to scale up or out on the same platform, virtually without limit. Intel Xeon processor-based servers support up to 1 terabyte of physical memory for 32- and 64-bit solutions, giving front and mid-tier applications plenty of computational room.

With robust server platform road maps geared to delivering a steady stream of new capabilities and value as well as generation-to-generation compatibility, Intel servers deliver platform longevity with ever-increasing capacity and performance.



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Case Study

Center for Good Governance Government IT Systems Intel Xeon Processors Intel Itanium 2 Processors

“We were already very happy with the Web applications’ performance of the 32-bit Intel Xeon processor-based server that we were using or one of our major applications, so choosing a 64-bit Intel Xeon processor-based server for further scaling and application consolidation was the logical decision.”

“...When I choose Intel, I can go with any vendor. I have a choice of standard add-on cards. Itanium 2- and Intel Xeon processor-based servers offer me the flexibility that is inherent in their open architecture.”

N.B.N. Ramesh
IT Manager
Center for Good Governance

Achieving 15x Application Scaling

The Center for Good Governance (CGG) in Hyderabad, India, provides program design and IT support for government programs servicing 75 million citizens. CGG wanted to replicate the success of its application running on an Intel Xeon processor-based Web server and an Itanium 2-based database server to 15 additional applications. Scaling, investment protection, and keeping total cost of ownership at a minimum were key challenges.

Room to Grow with Intel Xeon Processors

CGG decided to deploy an additional 64-bit Intel Xeon processor-based server to not only take care of the increased usage of Web applications as the 15 applications are fully developed, but to address 35 future planned applications as well. CGG also took a long-term strategic decision to stay with Intel’s high-performing Itanium-based servers for its database applications.

One Platform, Simplified Manageability, 24x7 Availability

CGG can now provide ongoing 24x7 availability of its IT systems that are critical to citizens and the government, as well as quickly and efficiently collect and manage more than 3 terabytes of data on government programs. Benefits of its Intel Xeon processor- and Itanium 2-based infrastructure include:

- 15 applications consolidated on one platform for easier manageability
- Room to accommodate 35 new applications
- 50 percent improved performance at one-third the cost of alternative solutions
- 24x7 operations with zero downtime



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Case Study

Chicago Mercantile Exchange Financial Exchange Intel Xeon Processors Intel Itanium 2 Processors

"We have Intel servers in a number of critical areas, and I don't think we could have kept up with the growth without them. They're cost effective and give us a flexible mechanism for scaling. I can order six more boxes and set them up in days. On a RISC platform it would have taken weeks, and our customers can't wait."

Charlie Troxel
Chief Technology Officer
Chicago Mercantile Exchange

Enabling Rapid Scaling

Chicago Mercantile Exchange (CME), the world's largest financial exchange, is growing rapidly. Total volumes for the second quarter of 2005 averaged a record 4.4 million contracts per day, up 33 percent from a year ago. CME's continuing growth means a need for faster platforms.

Migrating from Mainframe and RISC-based Systems

CME abandoned its large mainframe hardware for a highly tuned Itanium 2-based server platform and replaced its RISC-based systems with Intel Xeon processor-based servers running critical Tibco* middleware on Linux.* These powerful Intel servers support CME's rapid growth by enabling the company to quickly accommodate rising trade volumes and add new, loyalty-enhancing services.

Fast Scaling, 5x Performance Increase

A next-generation CME trade solution running on Intel Itanium 2 processors has slashed multiple hour-long analysis processes to seconds, yielding faster results at lower cost for important regulatory processing. And nearly 1,000 64-bit Intel Xeon processor-based servers running critical Tibco middleware on Linux deliver a fivefold performance increase over legacy RISC platforms at approximately 50 percent less cost.

- Fast, flexible scaling: server setup reduced from weeks to days
- Hour-long analysis reduced to seconds
- 5x performance increase
- 50 percent less expensive than legacy RISC-based systems
- 70 percent savings on connection costs



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Intel server platforms deliver
the business agility today's
competitive environment demands.



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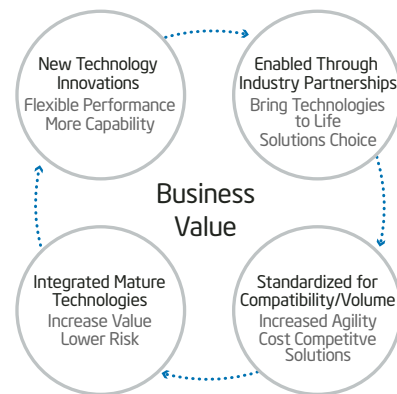
Respond. Adapt. Succeed.

Faced with ever-changing regulations, new customer expectations, and the continuing emergence of new technologies, your business success depends upon your ability to quickly respond and adapt in a cost-effective, manageable way.

How can you achieve greater IT agility? By adopting an open, standards-based architecture built for the growing enterprise. Intel technology-based server platforms deliver the business agility today's competitive environment demands.

With support for more than 20 operating systems and thousands of industry-leading applications, Intel server platforms give you the flexibility to develop configurations that meet your specific business requirements.

And with solutions offered from more than 20,000 vendors world-wide, you know you'll enjoy competitive pricing, the broadest range of options, and industry-leading support.



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Choose a technology partner with a 20-year history
of delivering standards-based platforms designed
to help you get ahead and stay ahead.

With Intel built in, you have
the ability to succeed.



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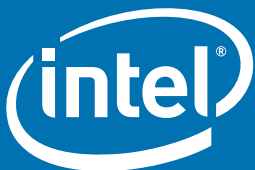
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For full details on customer case studies referenced in this brochure, visit www.intel.com/business/casestudies

1. Intel® Virtualization Technology requires a computer system with a processor, chipset, BIOS, virtual machine monitor (VMM), and, for some uses, certain platform software enabled for it. Functionality, performance, or other benefit will vary depending on hardware and software configurations. Intel Virtualization Technology-enabled BIOS and VMM applications are currently in development.

2. Source: www.hp.com HP Integrity NonStop*

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Printed in the United States. 0406/MRR/HBD/PP/2K 310786-002US



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